TORREYA

February, 1917.

Vol. 17 No. 2

SELF-PRUNING IN THE AMERICAN ELM

By Jean Broadhurst

While self-pruning is not uncommon in trees, it is seldom as noticeable as in the Carolina poplar; in early autumn branches one to seven years old and ten to twenty inches long may be seen lying under any young tree in such numbers as to give a most untidy appearance to the street or lawn.

Early in September, 1913, I noticed underneath some American elms on the lawn just south of the Cornell library numerous smals twigs, two to four inches long, all as clean-cut at each end as if cut by a sharp knife. On closer examination these ends were found to be very similar to the scars found at the basal end of self-pruned branches. While fingering some of the longer twigs, I was surprised to have them break in two in my hands. These new breaks also occurred at the annual rings or scars formed by the terminal bud scales.

Fig. 1 shows a ten-year-old twig which was laid upon paper, and pressed gently at each annual ring; breaks occurred as shown, marking each year's growth. Fig. 2 shows a much more branched twig with the same tendency to break at the annual bud scars. The pruned branches of Carolina poplar are similarly cut off at their bases; but careful examination of many twigs has failed to show any tendency toward such breaks between the two ends of any self-pruned branch.

This raises a question with regard to the American elm; are these successive breaks due to a definite but incomplete abscissal development or to a lack of satisfactory union of the growth of any year with that of the preceding year.

No. 1, Vol. 17, of Torreya, comprising pp. 1–20, was issued 1 February, 1917.]

FIG. 1. A ten-year old twig showing breaks at each of the nine annual rings; last year's growth is lacking, having broken off at its base, no. 1.

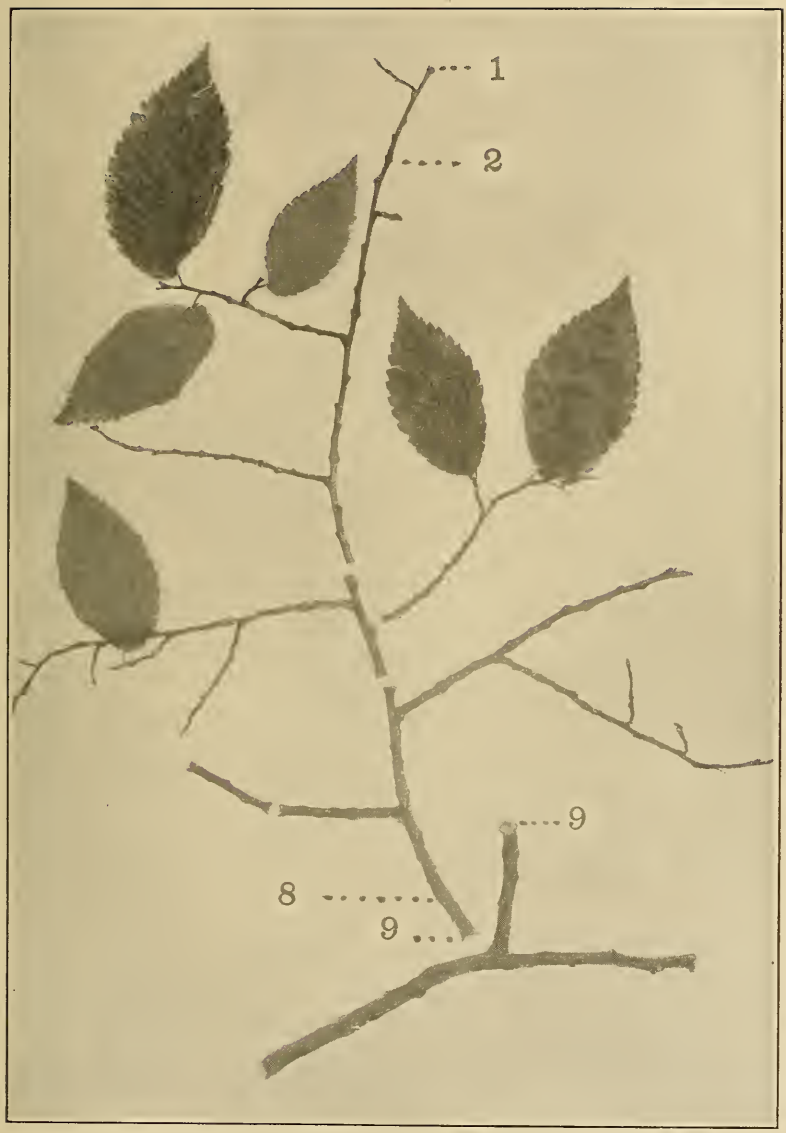

FIG. 2. A twelve-year old twig of American elm. Number 1 marks the break left by the fall of the growth of the last year; 2, the rings at the base of the growth of the last two years; 8, those at the base of the last eight years; at 9, one face of the break is turned to show how "clean" the break is.

The two photographs were made by Dr. B. O. Dodge, of Columbia University, and Miss Bernice Replogle of Bur Oak, Michigan.

Teachers College,
Columbia University

RUSTS OF THE WEST INDIES[1]

By J. C. Arthur

The rusts of the West Indies are not well known, and the present discussion can do no more than call attention to a few salient features regarding their kind, number and distribution. The first attempt at a collective account of the West Indian rust flora was made only a year or so ago, when the rich Porto Rican material collected by Professor F. L. Stevens in 1913–15 was studied.[2] This list gave 155 species for all the West Indies, only 20 of which were not known from Porto Rico. Had a list been compiled before this material was available it would have numbered less than 100 species, of which over half would have been recorded for Porto Rico, about half for Cuba, somewhat less than half for Jamaica, less than one fifth for the Bahamas, and still fewer for the Lesser Antilles and other small islands.

During two months in the early part of the present year (1916) the second extensive search for rusts in Porto Rico was made by Prof. H. H. Whetzel and Dr. E. W. Olive, which added 20 species to those already known for the island, and 17 species to the West Indian list, bringing the total up to 174.

In the meantime Mr. J. R. Johnston of the Experiment Station of Cuba has been searching for rusts in central and eastern Cuba, and Mr. Percy Wilson, of the New York Botanical Garden, has taken many rusts in western Cuba, especially in the Isle of Pines. The study of the rich material from these two sources, with addition of other scattering collections, shows a present rust flora for Cuba of 136 species, among which are found an addition

[1] Read before the Botanical Society of America at the New York meeting, Dec. 29, 1916.

[2] Arthur, J. C.—Uredinales of Porto Rico based on collections by F. L. Stevens. Mycol. 7: 168–196, 227–255, 315–332; 8: 16–33. 1915–16.